ALTALUNE TECHNOLOGY

ANDROID

Introduction to Android

- ❖ Introduction to Android
- ❖ Brief history of Android
- ❖ What is Android?
- ❖ Why is Android important?
- ❖ What benefits does Android have?
- ❖ What is OHA?
- ❖ Why to choose Android?
- ❖ Software architecture of Android
- ❖ Advantages of Android
- ❖ Android features Android market
- ❖ Comparing Android with other platform
- ❖ Terms and acronyms

2. Installation and Configuration of Android

- ❖ Details about the software requirement
- ❖ Download and installation process of Android SDK
- ❖ How to select Android version?
- ❖ Step to create new project?
- ❖ Running your application
- ❖ Creation of new AVD
- ❖ Android studio

3. Getting Started

- ❖ How to select Android version?
- ❖ Step to create new project
- ❖ Running Your Application
- ❖ Creation of New AVD
- ❖ Creating run configuration
- ❖ Creating your first Android activity
- ❖ List of basic sample programs

4. Introductions to Application Components Activities

- ❖ Services
- ❖ Broadcast receivers
- ❖ Content providers Intents
- ❖ Notifications
- ❖ Activating and shutting down components
- ❖ Brief idea about manifest file
- ❖ Brief idea about activities and Task

5. Android Component Life Cycle
- ❖ Activity Life Cycle with sample program
- ❖ Service Life Cycle with sample program

6. Android Layouts
- ❖ What are views, Layouts and there classification?
- ❖ How Android Draws views and Layout Classification?
- ❖ Table Layout ln detail with Example
- ❖ Tab Layout ln detail with Example
- ❖ Frame Layout ln detail with Example
- ❖ Linear Layout in detail with Example

7. Android Views
- ❖ Grid View In detail With Example
- ❖ Map View In detail with Example
- ❖ Cont. Sub Topical Views
- ❖ Web View In detail with Example
- ❖ Spinner In detail with Example
- ❖ Gallery In detail with Example
- ❖ Google Map View In detail with Example
- ❖ Introduction to creating activity user with views
- ❖ Different ways of creating views Using xml

8. Styles and Themes
- ❖ Providing resources
- ❖ Different resource file location
- ❖ Providing alternative resources
- ❖ Android finds the best matching resource
- ❖ Accessing resources
- ❖ Accessing platform resources
- ❖ Handling runtime changes
- ❖ Introduction to Jquery
- ❖ JQuery work in Android

9. What are Fragments?
- ❖ Multipane & Singlepane
- ❖ Fragment Life Cycle
- ❖ Addition of Fragments
- ❖ Fragments Working without U

10. Introduction to Menus
- ❖ How to create menus?
- ❖ Types of Android Application Menus
- ❖ Option Menu
- ❖ Expanded - In detail with Example

- ❖ Context Menu ln detail with example
- ❖ Sub Menu-In detail with example

11. Introduction to Drawers

- ❖ Navigation Drawer
- ❖ Simple Side Drawer
- ❖ Tab Drawer
- ❖ Extra Drawer

12. Handling User Interaction Events

- ❖ Handling user events
- ❖ Different types of event listener
- ❖ OnClickO
- ❖ OnLongClickO
- ❖ OnFocusChangeO
- ❖ OnKeyO OnTouchO
- ❖ OnCreateContextMenuO
- ❖ Different types of event handler
- ❖ OnKeyDown (int, KeyEvent)
- ❖ OnKeyUp (int, KeyEvent)
- ❖ OnTrackballEvent (MotionEvent)
- ❖ OnTouchEvent (MotionEvent)
- ❖ OnFocusChanged (boolean,int,Rect)

13. Creating Dialogs

- ❖ Introduction to dialogs
- ❖ Showing and dismissing of dialog boxes
- ❖ Alert dialog In detail with example
- ❖ Progress dialog In detail with example
- ❖ Threading and handler
- ❖ Creating running applications-Events
- ❖ Creating running applications-Dialogs

14. Notifications

- ❖ Notifying Users
- ❖ Status bar Notification
- ❖ Toast Notification
- ❖ Dialog Notification

15. Intents, Broadcast Receivers, Adapters and Internet

- ❖ Different types of intent?
- ❖ Launching sub-activities
- ❖ What is intent filter
- ❖ Intent objects---In detail with example
- ❖ Using intents to take pictures
- ❖ Handling sub activity results

16. Data Storage

- ❖ Android techniques for data storage
- ❖ Creating and saving shared preferences
- ❖ Retrieving shared preferences
- ❖ Storing in files
- ❖ Loading from files.
- ❖ Storing in databases.

17. Working with SQL Lite

- ❖ Introducing SQLite database.
- ❖ Working with Android databases.
- ❖ Using SQLite Open Helper.
- ❖ Cursors and content values.
- ❖ Opening and closing Database

18. Working in Background

- ❖ Introducing services
- ❖ Creating and controlling services
- ❖ Registering a service in the manifest
- ❖ Starting, controlling, and interacting with a service

19. Using the Camera, Taking Pictures and the Media API

- ❖ Controlling the camera and taking pictures
- ❖ Playing audio and video
- ❖ Introducing the media player
- ❖ Preparing audio for playback
- ❖ Packaging audio as an application resource
- ❖ Initializing audio content for playback
- ❖ Preparing for video playback
- ❖ Playing video using the video view
- ❖ Setting up a surface for video playback
- ❖ Initializing video content for playback
- ❖ Supported video formats
- ❖ Controlling playback
- ❖ Managing media playback output
- ❖ Multimedia supported audio formats
- ❖ Recording audio and video
- ❖ Using Intents to Record Video
- ❖ Configuring and Controlling Video Recording
- ❖ Previewing Video Recording
- ❖ Reading and Writing JPEG EXIF Image Details
- ❖ Adding new media to media storage Using the Media Scanner
- ❖ Inserting Media into the Media Store Raw video manipulation

❖ Recording Sound with Audio Record

❖ Playing Sound with Audio Track Speech recognition

❖ Creating and Running and Testing

20. Maps, GEO coding and Location Based Services

❖ Using Location Based Services

❖ Working with the location manager

❖ Configuring the Emulator to Test Location Based Services

21. About ADB (Android Debug Bridge)

❖ DDMS: Dalvik debug monitor Service

❖ Trace View

22. Data Security and Permission

❖ Security Architecture

❖ User Ids and File Access

❖ Using Permissions

❖ Declaring and Enforcing Permissions

23. Drawing 2D and 3D Graphics

❖ Rolling your own Widgets

❖ Drawables

❖ Bitmaps

❖ Paint

24. Using Bluetooth and Managing and Monitoring Wi-Fi

❖ Accessing the Local Bluetooth Device Adapter

❖ Managing Bluetooth Properties and State

❖ Managing Device Discoverability

❖ Discovering Remote Devices

❖ Monitoring Active Connection Details

❖ Scanning for Hotspots

❖ Managing Wi-Fi Configurations

❖ Creating Wi-Fi Network Configurations

❖ Device Vibration

❖ Controlling device vibration

25. Introduction SMS and MMS

❖ Using SMS and MMS in Your Application

❖ Sending SMS and MMS from your Application

❖ Using Intents and the Native Client Sending SMS Messages Manually Tracking and Conforming

❖ SMS Message Delivery

❖ Conforming to the Maximum SMS

❖ Message Size Sending DAT Messages

26. Content Providers

❖ What is content provider

❖ How to access build in Content provider

❖ Retrieving build - in Content provider data

27. Android Telephony

❖ Launching the Dialer to Initiate Phone Calls Replacing the Native Dialer

❖ Accessing phone and Network Properties & Status

❖ Reading Phone Device Details

❖ Reading Data Connection and Transfer State Reading Network Details

28. Sensor Device

❖ Using sensors and the sensor manager

❖ Introducing Sensors

❖ Supported Android Sensors

❖ Finding Sensors

❖ Using Sensors

❖ Interpreting the sensor values

❖ Using the compass , accelerometer and orientation sensors

❖ Introducing Accelerometers Detecting Acceleration Changes Creating a G-Forceometer

29. Further Advanced Topics

❖ Binding Activities to services

❖ Prioritizing Background services

❖ Binding data with service

30. Web Services with Architecture

❖ What are webservices

❖ Web service Architecture

❖ Asyn Task

❖ REST & SOAP

❖ Parsing Techniques JSON, XML Consuming Web Services CRUD Operations over Server

31. JSON

❖ Introduction to JSON

❖ Advantages of JSON over XML

❖ Syntax & Structure of JSON

❖ Why is JSON is preferred for mobile applications Different types JSON Parsers ,simple json , Jackson , GSON to parse the JSON

32. Volley Library

❖ Introduction Volley Library

❖ Volley Library Advantages

❖ Volley Library Components

❖ How to setup the Environment Creating Volley singleton class Different Types of Requests Adding request headers Handling Volley Cache

33. FIREBASE

❖ Realtime Database

❖ Cloud Storage

❖ Authentication

- ❖ Cloud Messaging
- ❖ AdMob
- ❖ Crash Reporting

34. Google Cloud Messaging

- ❖ What is GCM?
- ❖ GCM Architecture
- ❖ GCM Services
  - ❖ Instant Messaging
  - ❖ TTL (Time to Live)
  - ❖ Group Messaging
  - ❖ Server Communication

35. Integration

- ❖ Facebook Integration
- ❖ Twitter Integration
- ❖ Google/Gmail Integration
- ❖ Payment Gateway Integration

36. Material Design

- ❖ List and Card
- ❖ View Shadows/ Custom Shadows
- ❖ App Bar /Action Bar
- ❖ Material Theme
- ❖ Adapter view and Recycler View

37. Animation

- ❖ Clockwise
- ❖ Zoom
- ❖ Fade
- ❖ Blink
- ❖ Move
- ❖ Slide

38. Debugging and testing Android Apps

- ❖ 20g Cat
- ❖ Debugger
- ❖ Trace View
- ❖ Monkey Runner
- ❖ UI Automator

PROJECT

COVERING ALL THE CONCEPTS